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United States Department of Agriculture,

BUREAU OF ANIMAL INDUSTRY—Circular No. 80.

DAIRY DIVISION—No. 62.

OFFICIALS, ASSOCIATIONS, AND EDUCATIONAL INSTITUTIONS CONNECTED WITH THE DAIRY INTERESTS OF THE UNITED STATES FOR THE YEAR 1905.

WASHINGTON, D. C., *June 1, 1905.*

The accompanying lists will answer many inquiries made of this Department and also show the extent to which the dairy interests of the United States are organized. The lists herewith, which are compiled by the Dairy Division, contain the addresses of all the principal officials connected with this industry and exhibit the facilities offered in the several States for technical dairy instruction.

D. E. SALMON, *Chief of Bureau.*

Approved:

JAMES WILSON,
Secretary of Agriculture.

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UNITED STATES DEPARTMENT OF AGRICULTURE, 1905.

Secretary, JAMES WILSON.

Assistant Secretary, W. M. HAYS.

Bureau of Animal Industry:

D. E. SALMON, Chief.

A. D. MELVIN, Assistant Chief.

ED. H. WEBSTER, Chief of Dairy Division.

C. B. LANE, Assistant Chief of Dairy Division.

Dairy Experts.

C. E. GRAY, Expert in Butter Manufacture.

L. A. ROGERS, Bacteriologist.

C. F. DOANE, Expert in Dairying.

DUNCAN STUART, Assistant in Dairying.

B. H. RAWL, Expert in Southern Dairy Husbandry.

CHAS. THOM, Mycologist in Cheese Experiments.

——, Chemist in Cheese Experiments.

THEODORE ISSAJEFF, Expert Cheese Maker.

Dairy Inspectors.

M. W. LANG, 23 Marine Building, Chicago, Ill.

ROBERT MCADAM, (in the field, or) Chicago, Ill.

E. A. McDONALD, Seattle, Wash.

B. F. VAN VALKENBURGH, 168 Chambers St., New York, N. Y.

LEVI WELLS, Laceyville, Pa.

G. M. WHITAKER, P. O. Box 1332, Boston, Mass.

STATE DAIRY OFFICIALS, 1905.

The State laws under which the dairy commissioners' and dairy and food commissioners' offices are created, and those especially relating to dairy matters, were compiled and published by the Dairy Division in 1898 (Dairy No. 21) and in 1900 (Dairy No. 34). Many laws for the protection of dairy products, passed by State legislatures, are inoperative. In some cases courts have failed to sustain the statutes; in others the nonenforcement is due to neglect to provide the necessary special officers and funds. The cost of enforcing the laws referred to varies greatly in the different States. This information can not be exactly obtained, as it is the custom to make but one appropriation for dairy and other food work, and expenditures for the former are not kept separately. In some cases the amounts used in the interest of pure dairy products reach \$10,000 per year, and this amount is far exceeded in two or three States. The salary of the executive officer rarely exceeds \$2,000.

The following is a list of the commissioners and other principal officers:

- CALIFORNIA.** Agent and secretary of the State dairy bureau, J. M. Thomas, 95 Market street, San Francisco. Assistant agent, William H. Saylor, 95 Market street, San Francisco.
- COLORADO.** State dairy commissioner, Mrs. Mary Wright, Denver. Deputy commissioner, Ella L. Wright.
- CONNECTICUT.** Dairy commissioner, J. B. Noble, Hartford. Deputy commissioner, R. O. Eaton, Montowese.
- IDAHO.** State dairy, pure food, and oil commissioner, A. F. Hitt, Boise.
- ILLINOIS.** State food commissioner, Alfred H. Jones, Room 1623, Manhattan Building, Chicago. Assistant commissioner, Rudolph M. Patterson.
- INDIANA.** State inspector of food and drugs, J. N. Hurty (State health officer), Indianapolis.
- IOWA.** Dairy commissioner, H. R. Wright, Des Moines. Deputy commissioner, W. E. Smith, Des Moines. Assistant commissioners, P. H. Kieffer, Manchester; W. S. Smarzo, Manchester.
- MASSACHUSETTS.** Executive officer of the dairy bureau, the secretary of the State board of agriculture. General agent State dairy bureau, P. M. Harwood, 136 State House, Boston.
- MICHIGAN.** Dairy and food commissioner, A. C. Bird, Lansing. Deputy commissioner, Colon C. Lillie, Coopersville.
- MINNESOTA.** State dairy and food commissioner, Edward K. Slater, St. Paul. Assistant commissioner, M. G. Trenham, Alexandria.
- MISSOURI.** State dairy commissioner, ———, Columbia.
- NEBRASKA.** Food commissioner, the governor of the State. Deputy commissioner, W. F. Thompson, Lincoln.
- NEW JERSEY.** Chief inspector of food and drugs, George W. McGuire, Trenton.
- NEW YORK.** Commissioner of the department of agriculture (including dairy), Charles A. Wieting, Albany. Assistant commissioners, G. L. Flanders, Albany; F. J. H. Kracke, No. 23, Park Row, New York City; Ebenezer J. Preston, Amenia, N. Y.; S. Brown Richardson, Lowville, N. Y.; Charles T. Russell, Munnsville, N. Y.; Verlett C. Beebe, Arcade, N. Y.; William T. Hughes, Room 221, Powers' Block, Rochester, N. Y.; John H. Grant, 715 Mutual Life Building, Buffalo, N. Y.; James P. Clark, Falconer, N. Y.
- NORTH DAKOTA.** Ex-officio State dairy commissioner, W. C. Gilbreath, Bismarck, State commissioner of agriculture and labor. E. E. Kaufman, Deputy, Bismarck. Assistant dairy commissioner, R. F. Flint, Bismarck.
- OHIO.** Dairy and food commissioner, Horace Ankeney, Columbus. Assistant commissioners, J. J. Kinney, Cincinnati; Geo. Demuth, Toledo.
- OREGON.** Dairy and food commissioner, J. W. Bailey, Portland. Assistant commissioner, H. V. Tartar.
- PENNSYLVANIA.** Dairy and food commissioner of the department of agriculture, Dr. B. H. Warren, Harrisburg. Assistant commissioner, Oliver D. Schock, Harrisburg.
- SOUTH DAKOTA.** Food and dairy commissioner, E. W. Smail, Webster. Assistant commissioner, J. W. Arthur, Webster.
- UTAH.** Dairy and food commissioner, John Peterson, Salt Lake City. Assistant commissioner, Herman Harms, Salt Lake City.
- WASHINGTON.** State dairy, food, and oil commissioner, ———. Assistant commissioner, (Miss) Leah M. Lovetang, Seattle.
- WISCONSIN.** Dairy and food commissioner, J. Q. Emery, Madison. Assistant commissioner, U. S. Baer, Madison.

DAIRY ASSOCIATIONS, 1905.

The chief work of dairy associations is educational, but they also take an interest in all matters pertaining to the industry, especially legislation and the enforcement of dairy laws.

Most of the organizations named below publish the proceedings of their annual meetings. These are sometimes included with the reports of the State departments of agriculture, but are usually issued separately. It is now difficult to obtain full sets of reports of the older associations, which embrace much dairy information of a valuable and practical character. The same is true of reports of the American Dairymen's Association (1866-1880) and the Northwestern Dairymen's Association (1867-1883), which were disbanded when their fields of operation had become occupied by the younger associations in the several States.

A considerable part of the expenses of holding conventions and publishing reports is met by membership fees, which are generally \$1 per year, and special subscriptions of private individuals, firms, and towns where the meetings are held; also by receipts from advertisements inserted in the official programmes. But in most States the expenses are largely defrayed by annual grants of the legislatures. From this source the Wisconsin Dairymen's Association receives \$4,000; the Minnesota Dairymen's Association receives \$2,000; the Illinois State Dairymen's Association, \$1,500; the Connecticut Dairymen's Association, about \$1,200; the associations in Vermont and Nebraska, \$1,000 each; Ohio, this year, \$800; New Hampshire, Granite State Dairymen's Association, \$700; the Wisconsin Cheese Makers' Association receives \$600; the Indiana, Maine, and Wisconsin Butter Makers' associations receive \$500 each; the Michigan Dairymen's Association receives \$300 and the expense of printing the annual reports; the Minnesota State Butter and Cheese Makers' Association receives \$275; Dairy Union, Pennsylvania, about \$200; the Georgia Association, \$50. In Iowa the expense of printing and distributing the proceedings of the annual meetings of the State Association is borne by the State; in New York and Pennsylvania a part of the expenses of the speakers and the annual meeting are paid by the State; and in Maine some assistance is received through the State commissioner of agriculture.

Prizes consisting of money and articles useful in the dairy are frequently offered by the supply trade and others for the best packages of butter and cheese exhibited at the meetings.

Following is a list of all dairy associations whose interests cover any considerable part of a State or larger territory.

National Association of State Dairy and Food Departments. Organized 1897. Membership, dairy and food control officials of each State. President, W. W. McConnell, Mankato, Minn. Secretary, R. M. Allen, Lexington, Ky. Annual meeting: Portland, Oregon, July 10-12, 1905.

National Creamery Buttermakers' Association. Organized 1901. Membership, estimated, about 2,000. President, H. J. Nietert, Walker, Iowa. Secretary, E. Sudendorf, Clinton, Ill. Annual meeting: Chicago, probably February, 1906.

National Dairy Union.¹ Organized 1898. Membership, estimated, 10,000. President, S. B. Shilling, Mason City, Iowa. Secretary, Charles Y. Knight, 154 Lake street, Chicago, Ill. Last annual meeting: Mason City, Iowa, February 3, 1905.

Boston Cooperative Milk Producers' Association.^{*1} Organized 1904. Membership 1,600. President, M. A. Morn, Belchertown, Mass. Secretary, W. A. Hunter, 10 Florence street, Worcester, Mass. Annual meeting: Boston, Mass., third Tuesday in January each year.

Five States Milk Producers' Association. Organized 1898. Membership about 3,000. President, Ira L. Snell, Kenwood, N. Y. Secretary, H. T. Coon, Homer, N. Y. Annual meeting: Binghamton, N. Y., October 17, 1905.

CALIFORNIA. California Creamery Operators' Association. Organized 1901. Membership 143. President, D. P. Glasier, Oakland, Cal. Secretary, W. H. Roussel, 119 California street, San Francisco. General meeting: Modesto, December —, 1905.

CONNECTICUT. Connecticut Dairymen's Association.¹ Organized 1882. Membership 325. President, H. O. Daniels, Middletown, Box 696. Secretary, J. G. Swink, jr., Meriden. Annual meeting: Hartford, third week in January, 1906.

Connecticut Creamery Association. Organized 1890. Membership 19. President, E. A. Russell, Suffield. Secretary, E. B. Little, Somers. Last annual meeting: Hartford, January 13, 1905.

GEORGIA. Georgia Dairymen's Association. Organized 1894. Membership about 100. President, W. L. Williamson, Commerce. Secretary, M. L. Duggan, Sparta. Last annual meeting: Tallulah Lodge, August 2, 3, 1904.

^{*} Succeeds the New England Milk Producers' Association.

¹ Incorporated.

- IDAHO.** *State Dairy Association.* Organized 1899. Membership about 25. President, H. T. French, Moscow. Secretary, A. E. Gipson, Caldwell. Last annual meeting: Boise, January 21, 1905.
- ILLINOIS.** *Illinois Dairymen's Association.* Organized 1874. Membership 275. President, Joseph Newman, Elgin. Secretary, George Caven, 154 Lake street, Chicago. Last annual meeting: Rockford, January 10-12, 1905.
*Chicago Milk Shippers' Union.*¹ Organized 1896. Membership 500. President, Hiram Holcomb, Sycamore. Secretary, H. B. Farmer, 184 La Salle street, Chicago. General meeting: Chicago, last Monday in February, 1906.
- INDIANA.** *Indiana State Dairy Association.* Organized 1891. Membership 102. President, D. B. Johnson, Mooresville. Secretary, H. E. Van Norman, Lafayette. Last annual meeting: Indianapolis, January 19, 20, 1905.
- IOWA.** *Iowa State Dairy Association.* Organized 1876. Membership 397. President, S. B. Shilling, Mason City. Secretary, P. H. Kieffer, Manchester. Last annual meeting: Mason City, February 1-3, 1905.
- KANSAS.** *Kansas State Dairy Association.* Organized 1888. Membership 300. President, H. Vanleeuwen, Ottawa. Secretary, I. D. Graham, of the Kansas Farmer, Topeka. Last annual meeting: Salina, April 5-7, 1905.
- MAINE.** *Maine Dairymen's Association.* Organized 1898. Membership 31. President, F. S. Adams, Bowdoinham. Secretary, L. W. Dyer, Woodfords. Last annual meeting: Auburn, December 13-15, 1904.
- MASSACHUSETTS.** *Massachusetts Creamery Association.* Organized 1891. Membership 35. President, Watson H. Wright, Easthampton. Secretary, A. M. Lyman, Montague. Annual meeting: ———, December 20, 1905.
- MICHIGAN.** *Michigan Dairymen's Association.* Organized 1885. Membership 150. President, Colon C. Lillie, Coopersville. Secretary, S. J. Wilson, Flint. Last annual meeting: Grand Rapids, February, 1905.
Grand Traverse Dairymen's Association. Organized 1901. Membership 95. President, G. H. Robertson, Traverse City. Secretary, D. H. McMullen, R. R. No. 1, Traverse City. Last annual meeting: Traverse City, March 15, 16, 1905.
- MINNESOTA.** *Minnesota State Dairymen's Association.*¹ Organized 1877. Membership 190. President, A. W. Trow, Glenville. Secretary, J. R. Morley, Owatonna. Last annual meeting: Albert Lea, December 13-15, 1904.
*Minnesota State Butter and Cheese Makers' Association.*¹ Organized 1895. Membership 320. President, H. J. Credicott, Easton. Secretary, C. I. Cole, Bloomer, Wis. Last annual meeting: St. Anthony Park, December 1, 2, 1904.
- MISSOURI.** *Missouri State Dairy Association.* Organized 1890. Membership 350. President, W. W. Marple, St. Joseph. Secretary, C. H. Smalley, 546 Walnut street, Kansas City. Last annual meeting: Brookfield, February 15-17, 1905.
- NEBRASKA.** *Nebraska Dairymen's Association.* Organized 1885. Membership 175. President, L. D. Stillson, York. Secretary, S. C. Bassett, Gibbon. Last annual meeting: Lincoln, January 19, 20, 1905.
- NEW HAMPSHIRE.** *Granite State Dairymen's Association.*¹ Organized 1884. Membership 73. President, W. H. Caldwell, Peterboro. Secretary, Ivan C. Weld, Durham. Last annual meeting: Laconia, December 8, 9, 1904.
- NEW YORK.** *New York State Dairymen's Association.*¹ Organized 1877. Membership 400. President, M. T. Morgan, West Winfield. Secretary, Robert McAdam, Rome. Last annual meeting: Herkimer, December 12-14, 1905.
- NORTH DAKOTA.** *North Dakota Dairymen's Association.* Organized 1891. President, Eugene Weigel, Hebron. Secretary, E. E. Kaufman, Fargo. Last annual meeting: Fargo, January 18, 19, 1905.
- OHIO.** *Ohio State Dairymen's Association.* Organized 1894. Membership 150. President, Jno. D. Nichols, Cleveland. Secretary, E. H. Campbell, Salem. Last annual meeting: Salem, March 7, 8, 1905.

¹ Incorporated.

OKLAHOMA. *Oklahoma Dairy Association*. Organized 1904. Membership 18. President, Harry E. Moore, Watonga. Secretary, Frank D. Northup, Oklahoma City. Last annual meeting: Guthrie, February 19, 1905.

OREGON. *Oregon Dairymen's Association*. Organized 1892. Membership 62. President, Harry West, Scappoose. Secretary, F. L. Kent, Corvallis. Annual meeting: Forest Grove, December —, 1905.

PENNSYLVANIA. *Pennsylvania Dairy Union*.¹ Organized 1898. Membership 200. President, Dr. H. P. Armsby, State College. Secretary, W. E. Perham, Niagara. Last annual meeting: Harrisburg, November 30, December 1, 1904.

Creamery Association of Eastern Pennsylvania and vicinity. Reorganized 1896. Membership 125. President, John I. Carter, Chatham. Secretary, George R. Meloney, 1937 Market street, Philadelphia. Annual meeting: Philadelphia, first Saturday in January, 1906.

SOUTH CAROLINA. *South Carolina Live Stock and Dairymen's Association*. Organized 1902. Membership 24. President, ———. Secretary, G. M. Davis, Clinton. Last annual meeting: Clemson College, August, 1904.

SOUTH DAKOTA. *South Dakota Dairy and Butter Makers' Association*. Organized 1890. Membership 100. President, Leland Griffin, Desmet. Secretary, C. P. Sherwood, Desmet. Last annual meeting: Mitchell, February 3, 4, 1904.

TENNESSEE. *East Tennessee Dairy Association*.¹ Organized 1904. Membership 50. President, James A. Reagan, Sweetwater. Secretary, W. Y. Shugart, Chattanooga. Annual meeting: Chattanooga, ———, 1906.

TEXAS. *State Dairy and Feeders' Association*. Organized 1897. Membership 18. President, W. R. Spann, Dallas. Secretary, G. E. Adams, Round-rock. Last annual meeting: Austin, January 26, 1905.

UTAH. *Utah Dairymen's Association*. Organized 1894. Membership 75. President, Lorenzo Hansen, Logan. Secretary, Prof. R. W. Clark, Logan. Annual meeting: Salt Lake City, first week in October, 1905.

VERMONT. *Vermont Dairymen's Association*. Organized 1869. Membership 550. President, H. C. Bruce, Sharon. Secretary, F. L. Davis, North Pomfret. Last annual meeting: Montpelier, January 10-12, 1905.

WASHINGTON. *Washington State Dairymen's Association*. Organized 1894. Membership 270. President, B. F. Reed, Ellensburg. Secretary, Mrs. E. Carmichael, Yakima. Last annual meeting: Olympia, January 19-21, 1905.

WEST VIRGINIA. *West Virginia State Dairy Association*. Organized 1904. Membership 40. President, B. F. Mann, Fort Spring. Secretary, W. K. Brainerd, Morgantown. Annual meeting: Probably Spencer, January —, 1906.

WISCONSIN. *Wisconsin Dairymen's Association*. Organized 1872. President, Chas. L. Hill, Rosendale. Secretary, George W. Burchard, Fort Atkinson. Last annual meeting: Wausau, February 8-10, 1905.

Wisconsin Cheese Makers' Association.¹ Organized 1893. Membership 350. President, E. L. Aderhold, Neenah. Secretary, U. S. Baer, Madison. Annual meeting: Milwaukee, January —, 1906.

Southern Wisconsin Cheese Makers' Association. Organized 1901. Membership 120. President, Jno. Luchsinger, Monroe. Secretary, Henry Elmer, Monroe. Last annual meeting: Monroe, February 16, 17, 1905.

Wisconsin Buttermakers' Association.¹ Organized 1901. Membership 310. President, M. Michels, Garnet. Secretary, J. G. Moore, Madison. Last annual meeting: Fond du Lac, February 21-23, 1905.

¹ Incorporated.

DAIRY INSTRUCTION, 1905.

In the prominent dairy States, and in several others, the State agricultural colleges and some other institutions conduct dairy schools in which they offer short courses in the different branches of dairying. Instruction continues a few weeks, and is given by lectures, laboratory practice, and work in the dairy. It includes the principles of breeding and feeding of dairy cattle, practical exercise in testing milk, and the manufacture and care of dairy products; in some cases, also, the pasteurization of milk and a brief study of dairy bacteriology. There are few entrance requirements.

All of the instruction given in the short courses is offered to the students taking longer dairy courses and the full college courses in agriculture, and these have opportunity to pursue advanced work and to specialize along lines in which they are most interested.

As a rule all the work in the creamery and cheese factory short courses bears directly upon these industries, while in the farm-dairy courses subjects less closely related to dairying are usually taken.

The names of the institutions at which instruction in dairying is given, the kind and amount of the work, as well as the season when offered, together with the names and addresses of instructors in charge, to whom requests for further information may be sent, are stated below:

ALABAMA. *Alabama Polytechnic Institute.*

College course; dairying, sophomore year, fall term, two hours lectures and three hours practice per week.

Two-year course; dairying, fall term, two hours lectures and four hours practice per week.

One-year course; dairying, fall term, two hours lectures and four hours practice per week.

Address: Prof. J. F. Duggar, Auburn.

Agricultural and Mechanical College for Negroes.

Creamery and dairy farming by special arrangement.

Address: Prof. G. R. Bridgeforth, Normal.

Tuskegee Normal and Industrial Institute.

Regular course; farm dairying, two years; two lectures and two practice periods per week.

Address: Prof. George W. Carver, Tuskegee.

CALIFORNIA. *University of California.*

Dairy school; creamery and cheese making, fall, eight weeks.

College course; senior year, first half, dairying, one lecture and eight hours practice per week.

Two-year course; second year, first half, dairying, one lecture and eight hours practice per week.

Address: Prof. E. W. Major, Berkeley.

California Polytechnic School.

Regular course; dairying, second year, one lecture and six practice periods per week. It includes thirteen weeks of milk testing and dairy chemistry, twelve weeks butter making, and eleven weeks cheese making.

Third year, advanced courses, elective.

Address: Prof. Leroy Anderson, San Luis Obispo.

COLORADO. *State Agricultural College.*

College course; dairying, junior year, spring term, four hours lectures and ten hours practice per week, exclusive of feed and management of dairy cattle.

Address: W. L. Carlyle, Fort Collins.

CONNECTICUT. *Agricultural College.*

Dairy school; two courses, creamery and farm dairy, winter, twelve weeks.

College course; dairying, senior year, thirty hours lectures, thirty hours practice.

Address: Prof. C. L. Beach, Storrs.

DELAWARE. *Delaware College.*

College course; dairying, senior year, thirty lectures, thirty hours laboratory work.

Short course; farm dairying, ten weeks, two lectures and one laboratory period per week.

Address: Prof. J. A. Foord, Newark.

FLORIDA. *University of Florida.*

College course; junior year, second term, lectures two hours, practice four hours per week.

Address: Prof. C. M. Conner, Lake City.

State Normal and Industrial School.

Regular course; farm dairying, eight weeks, one lecture, two hours practice.

Address: Prof. Zachary T. Hubert, Tallahassee.

GEORGIA. *State College of Agriculture and Mechanic Arts.*

College course; dairying, senior year, two terms.

Short course; dairying and veterinary science, six weeks, ten hours a week.

Address: Prof. J. M. Johnson, Athens.

IDAHO. *College of Agriculture, State University.*

College course; dairying, twenty weeks, three hours practice per week.

Preparatory school; dairying, one year, four hours practice per week.

Short course; farm dairying, winter, three weeks.

Address: Prof. H. T. French, Moscow.

ILLINOIS. *College of Agriculture, University of Illinois.*

College course; dairying, three hours a week, one-half year is required; elective one full year. Electives: Farm dairying, creamery and cheese factory management, butter, cheese, commercial milk, pasteurizing, standardizing, dairy bacteriology, original dairy investigation, etc. (Total electives equal to eighteen hours per week for one year.)

Address: Prof. Wilber J. Fraser, Urbana.

INDIANA. *School of Agriculture, Purdue University.*

Dairy school; creamery, farm dairy, winter, ten weeks.

College course; dairying, freshman year, second half, seven hours per week; junior and senior years, elective, six hours per week for two years. Two-year course; dairying, freshman year, second half, seven hours per week.

Short courses; (1) starters, cream ripening and butter scoring, ten days; (2) for adults, farm butter making and milk testing, ten days.

Address: Prof. H. E. Van Norman, Lafayette.

IOWA. *State College of Agriculture and the Mechanic Arts.*

Dairy school, two courses; cheese making, fall, sixteen weeks; butter making, spring, twenty weeks.

College course; four-year course in dairy husbandry, special dairying subjects, sophomore year, second semester, six hours per week; junior year, four hours per week; senior year, seven hours per week.

Short courses; (1) two weeks winter course for experienced butter makers only, on churning, cream ripening, starters, pasteurization and testing; (2) two weeks, winter, farmers' course in farm dairying, including butter making, testing, hand separators, etc.

Address: Prof. G. L. McKay, Ames.

KANSAS. *State Agricultural College.*

Dairy school; two courses, creamery, and farm dairy, each twelve weeks, winter.

College course; dairying, sophomore year, twelve weeks, two and one-half hours lectures, ten hours laboratory per week; senior year, elective, fifteen hours.

Address: Prof. Oscar Erf, Manhattan.

KENTUCKY. *Normal and Industrial Institute for Colored Persons.*

Regular course; dairying, theory and practice, two hours per day for nine months.

Address: President Jas. S. Hathaway, Frankfort.

LOUISIANA. *State University and Agricultural and Mechanical College.*

College course; dairying, fourth year, first semester, three hours lectures, and two hours practice per week.

Short course; dairying, second year, first semester, three hours lectures, and two hours practice per week.

Winter course (ten weeks); dairying, nine lectures, six hours practice.

Address: Prof. B. C. Pittuck, Baton Rouge.

Southern University and Agricultural and Mechanical College.

Regular course; dairying, senior year.

Address: Prof. Chas. E. Roos, New Orleans.

MAINE. *University of Maine.*

Dairy school; four weeks, two lectures and four hours practice per day, for two winters.

College course; dairying, junior year, spring term, eighteen hours lectures, sixty hours practice.

School of Agriculture; dairying, first year, second term.

Two years course; one hour per day throughout the year.

Address: Prof. G. M. Gowell, Orono.

MARYLAND. *Agricultural College.*

College course; dairying, senior year, second term.

Two-year course; dairying, first term, one hour lecture, four hours practice per week.

Short course; winter, ten weeks.

Address: Prof. W. T. L. Taliaferro, College Park.

MASSACHUSETTS. *Agricultural College.*

College course; sophomore year, thirty-two hours lectures; senior year, elective, twenty-eight hours lectures, sixty hours practice.

Short course; dairy farm management, creamery and farm dairy, winter, ten weeks.

Address: Prof. Wm. P. Brooks, Amherst.

MICHIGAN. *State Agricultural College.*

Dairy school; two winter courses; creamery eight weeks; cheese making, four weeks.

College course; dairying, sophomore year, six weeks, twelve hours lectures and forty-eight hours practice; women's course elective, twelve weeks; senior year, pasteurization, dairy experimentation, detection of adulteration, advanced butter and cheese making, sixty hours theory, two hundred and seventy hours practice.

Address: Prof. C. D. Smith, Agricultural College.

MINNESOTA. *College of Agriculture, University of Minnesota.*

Dairy school; creamery, farm dairy, cheese making, winter, four weeks.

College course; farm dairy, one-half term, two hours per week; students can elect factory course in butter and cheese making, four weeks, four afternoons per week; also practice.

School of Agriculture; second year, first term, seven hours dairying per week; second term, two and one-half hours per week.

Address: Prof. T. L. Haecker, St. Anthony Park.

MISSISSIPPI. *Agricultural and Mechanical College.*

College course; dairying, freshman year, one term, two hours per week; sophomore year, one term, five hours per week lectures, two hours practice; junior year, one term, nine hours per week (one-half lectures, one-half practice); senior year, one term, nine hours per week (one-half lectures, one-half practice).

Address: Prof. J. S. Moore, Agricultural College.

Alcorn Agricultural and Mechanical College.

Regular course; farm dairying, fourteen weeks.

Address: Prof. J. M. Hicks, Westside.

MISSOURI. *College of Agriculture and Mechanic Arts, University of Missouri.*

Dairy school; creamery, cheese making, and farm dairying, winter, eight weeks.

College course; dairying, first year, one term, thirty-six hours lectures, forty-five hours practice; can elect one hundred hours lectures, and one hundred and twenty-six periods laboratory work.

Short course; dairying, eighteen hours lectures, eighteen hours practice per week.

Address: Prof. C. H. Eckles, Columbia.

MONTANA. *State College of Agriculture and Mechanic Arts.*

College course; dairying, sophomore year, one-half year, two lectures and three afternoons practice; senior year, advanced dairying, two lectures and three afternoons practice.

Short course; dairying, winter, three months, two lectures and three afternoons practice.

Address: Prof. F. B. Linfield, Bozeman.

NEBRASKA. *Industrial College, University of Nebraska.*

College course; dairying, first year, four hours lectures, four hours practice, per week.

Long course, School of Agriculture; six months, first year, two lectures and four hours practice per week.

Short course; dairying, winter, nine weeks, two lectures, four hours practice per week.

Address: Prof. A. L. Haecker, Lincoln.

- NEVADA. *College of Agriculture, State University.*
 College course; dairying, senior year, both semesters, three hours lectures, four hours practice per week.
 Address: Prof. N. E. Wilson, Reno.
- NEW HAMPSHIRE. *College of Agriculture and Mechanic Arts.*
 Dairy school; creamery, farm dairy, winter, ten weeks.
 College course; dairying, junior year, forty-five hours lectures and one hundred and five hours practice; senior year, three hours per week.
 Two-year agricultural course; dairying, spring term, two hours lectures and ten hours practice per week.
 Address: Prof. Ivan C. Weld, Durham.
- NEW MEXICO. *College of Agriculture and Mechanic Arts.*
 College course; dairying, senior year, thirty-six hours lectures, forty-eight hours practice.
 Short course; dairying, thirty-six hours lectures, forty-eight hours practice.
 Address: Prof. J. J. Vernon, Mesilla Park.
- NEW YORK. *College of Agriculture, Cornell University.*
 Dairy school: creamery, cheese factory, and market milk, winter, eleven weeks.
 College course; dairying equal to three hours per week for one year, and elective advanced course.
 Short course; farm dairying, winter, eleven weeks, three half-days per week.
 Special agricultural course; dairying, elective.
 Address: Prof. R. A. Pearson, Ithaca.
- NORTH CAROLINA. *College of Agriculture and Mechanic Arts.*
 Dairy school; creamery and farm dairy, winter, ten weeks.
 College course; dairying, first year, spring term, three hours per week.
 Two-year agricultural course; dairying, fall term, first year, three hours per week.
 Winter course in agriculture and dairying, ten weeks.
 Address: Prof. C. W. Burkett, West Raleigh.
- Agricultural and Mechanical College for the Colored Race.*
 College course; dairying second year, winter and spring terms.
 Address: Prof. J. H. Bluford, Greensboro.
- NORTH DAKOTA. *Agricultural College.*
 College course; farm dairying, sophomore year, fall term, seventy hours lectures, eighty-four hours practice.
 Three-year agricultural course; winter term, sixty lectures, seventy-two hours practice.
 Short course; farm dairying, winter, ten weeks, twenty-four lectures, forty-eight hours practice.
 Address: Prof. Geo. W. Allen, Fargo.
- OHIO. *State University.*
 Dairy school; creamery, cheese factory, farm dairy, two winters, eleven weeks each.
 College course; dairying, one year, two lectures and six hours practice per week; elective junior and senior year. A second year, two hours per week may be elected; laboratory and seminary through the year; household dairying, spring term, two hours per week; milk inspection, fall term, two hours per week.
 Two-years course; dairying, second year, five hours per week.
 Address: Prof. John W. Decker, Columbus.
- OKLAHOMA. *Agricultural and Mechanical College.*
 College course; dairying, junior year, winter term, thirty-six hours lectures and forty-eight hours practice.
 Two-year course; dairying, second year, fall term, twenty hours lectures and twenty hours practice.
 Short course; dairying, eight weeks, thirty lectures, every afternoon practice.
 Address: Prof. F. C. Burtis, Stillwater.
- OREGON. *State Agricultural College.*
 Dairy school; creamery and cheese factory, winter, eight weeks.
 College course, dairying, sophomore year, one-half term, five lectures per week; junior year, one term, five hours practice per week.
 Address: Prof. F. L. Kent, Corvallis.

PENNSYLVANIA. *School of Agriculture, State College.*

Dairy school; creamery and farm dairy, winter, eight weeks.
College course; dairying, in junior and senior years, fifty-one hours lectures, and one hundred hours practice; elective courses of one hundred and twenty-six hours lectures, and one hundred and eighty-five hours practice.
Short course; dairying, fifteen lectures and twenty-two hours practice.
Special one-year course; dairying, elective.
Correspondence course; dairying, forty-seven lessons.
Address: Prof. Geo. C. Watson, State College.

RHODE ISLAND. *College of Agriculture and Mechanic Arts.*

College course; dairying, spring term, three hours per week.
Address: President K. L. Butterfield, Kingston.

SOUTH CAROLINA. *Clemson Agricultural College.*

College course; dairying, junior year, first term, two lectures; second, four lectures and four hours practice per week.
Address: John Michels, Clemson College.

Colored Normal, Industrial, Agricultural, and Mechanical College.

Regular course; junior and senior years, farm and dairy work, five hours per week.
Address: Prof. G. C. Williams, Orangeburg.

SOUTH DAKOTA. *Agricultural College.*

Dairy school; creamery, winter, twelve weeks; cheese making, spring, twelve weeks; farm dairy, fall, twelve weeks.
College course; dairying, freshman and sophomore years, fall term.
Address: Prof. A. H. Wheaton, Brookings.

TENNESSEE. *University of Tennessee.*

Dairy school; creamery, farm dairy, cheese making, commercial milk, two winters, ten weeks each.
College course; dairying, junior and senior years, two terms, one lecture.
Address: Prof. S. E. Barnes, Knoxville.

TEXAS. *Agricultural and Mechanical College.*

College course; dairying, junior year, fall term, three hours lectures, two and one-half hours practice per week.
Address: Prof. John A. Craig, College Station.

UTAH. *Agricultural College.*

College course; freshman year, six months, dairying, three lectures and twelve hours practice per week; senior year, second term, dairying, three hours per week.
Three-year course; third year, first term, three hours per week.
Short winter course; four weeks dairying, one lecture, three hours practice per day.
Address: Prof. R. W. Clark, Logan.

VERMONT. *University of Vermont and State Agricultural College.*

College course; dairying, junior year, winter, four weeks, five hours per week (two-thirds lectures, one-third practice).
Address: Prof. J. L. Hills, Burlington.

VIRGINIA. *Agricultural and Mechanical College.*

College course; dairying, two terms, one lecture, six hours practice per week.
Short course; one term, one lecture, six hours practice per week.
Address: Prof. Andrew M. Soule, Blacksburg.

Hampton Normal and Agricultural Institute.

Regular course; dairying, boys, twelve periods lectures; girls, ten periods lectures; both, ten periods practice.
Special agricultural course; twenty lectures, twelve weeks practice, three to five hours daily.
Address: Prof. W. L. Sweetser, Hampton.

WASHINGTON. *Agricultural College and School of Science.*

Dairy school; creamery and cheese factory, winter, eight weeks.
College course; dairying, two-fifths of second semester (19 weeks) one-third lecture, two-thirds practice.
Short course; dairying, same as college course except it is in the first semester.
Farmers' course; farm dairying, five days, lectures and practice.
Address: Prof. E. E. Elliott, Pullman.

WEST VIRGINIA. *College of Agriculture, West Virginia University.*

College course; dairying, three terms, one-third lectures, two-thirds practice.

Short course for farmers; winter, four weeks.

Address: Prof. W. K. Brainerd, Morgantown.

West Virginia Colored Institute.

Regular course; junior year, dairying, three months, lectures and practice.

Address: Prof. A. W. Curtis, Institute.

WISCONSIN. *College of Agriculture, University of Wisconsin.*

Dairy school; creamery and cheese factory, winter, twelve weeks, farm dairying, winter, fourteen weeks; summer dairy school (March 1–November 1), practical work, with some lectures.

College course; dairying, one full study for junior and senior years.

Address: Prof. E. H. Farrington, Madison.

Dunn County School of Agriculture.

Regular course; dairying, second year, winter, twelve weeks, one-fourth lectures, three-fourths practice.

Short course; dairying, winter, twelve weeks.

Address: Dr. K. C. Davis, Menomonie.

ASSOCIATIONS OF BREEDERS OF PUREBRED DAIRY CATTLE, 1905.

The interests of the different breeds of dairy cattle are in charge of organizations of breeders which determine purity of breeding, verify pedigrees, register eligible animals, and publish herd books. Some of them record and publish sales and transfers and attested records of dairy performances. They also establish standards of excellence. The details of the work are usually left to the secretary. The names of the various associations and the addresses of the secretaries are as follows:

Ayrshire Breeders' Association.

Secretary, C. M. Winslow, Brandon, Vt.

Brown Swiss Breeder's Association.

Secretary, N. S. Fish, Groton, Conn.

American Devon Cattle Club.

Secretary, L. P. Sisson, Newark, Ohio.

Dutch Belted Cattle Association of America.

Secretary, H. B. Richards, Easton, Pa.

American Guernsey Cattle Club.

Secretary, Wm. H. Caldwell, Peterboro, N. H.

Holstein-Friesian Association of America.

Secretary, F. L. Houghton, Brattleboro, Vt.

American Jersey Cattle Club.

Secretary, J. J. Hemingway, 8 W. Seventeenth street, New York, N. Y.

American Polled Durham Breeders' Association.

Secretary, F. S. Hines, Indianapolis, Ind.

The American Polled Jersey Cattle Club.

Secretary, Charles S. Hatfield, Springfield, Ohio:

Red Polled Cattle Club of America.

Secretary, J. McLain Smith, Dayton, Ohio.

American Short Horn Breeders' Association.

Secretary, John W. Groves, 17 Exchange avenue, Chicago, Ill.

American Milch Goat Record Association.

Secretary, W. A. Shafor, Hamilton, Ohio.

INTERNATIONAL DAIRY FEDERATION.

(La Fédération Internationale Laitière.)

[For the organization of the International Dairy Congress to be held at Paris during the year 1905.]

PRESIDENT.—M. le Baron Peers of Nieuwbург.

President of the National Dairy Society of Belgium.

SECRETARY-GENERAL.—M. L. Gedoelst, Brussels, Belgium.

Professor, State Veterinary School.

ASSISTANT SECRETARY.—M. J. Troude, Paris.

Professor, National School of Agricultural Industries at Douai, France.

DELEGATES.

ARGENTINA.—M. B. J. Montero, Consul-General of Argentina in Belgium.

AUSTRIA.—M. Maximilian Ripper, Agr. Chemical Exp. Sta., Vienna.

BELGIUM.—M. Paul De Vuyst, Inspector of Agriculture, Brussels.

DENMARK.—Prof. Bernard Bøggild, School of Agriculture and Veterinary Science, Copenhagen.

FRANCE.—Dr. H. Ricard, Senator Côte d'Or.

GERMANY.—M. C. Boysen, Economic Adviser, Hamburg.

GREAT BRITAIN AND IRELAND.—Granville E. Lloyd-Baker, Hardwicke Court, Gloucester.

HOLLAND.—Dr. N. P. Wyseman, Leyden University.

HUNGARY.—M. Thomas de Szily, Dairy Inspector-General, Dept. Agriculture, Budapest.

ITALY.—M. Carlo Besana, Director of Dairy Station, Lodi.

LUXEMBOURG.—Director Aschmann, Agricultural Station, Ettelbrück.

RUSSIA.—Dr. Kalantar, Dairy Expert, St. Petersburg.

SPAIN.—M. Garcia de los Salmones, Director of the Agric. Service, Pampelune.

SWEDEN.—M. Chr. Barthel, Director of Laboratory of Alpha de Laval Society, Hamra.

SWITZERLAND.—Dr. N. Gerber, Zurich.

UNITED STATES.—Ed. H. Webster, Washington, D. C.

Permanent Headquarters of the Federation, 56 Marie-Louise Square, Brussels.
Branch office, for the Congress of 1905, 61 boulevard Barbés (18e), Paris.

PROVISIONAL COMMITTEE ON ORGANIZATION FOR THE UNITED STATES.

Ed. H. Webster, Chief of Dairy Division, U. S. Department of Agriculture, Chairman, ex-officio.

Dr. S. M. Babcock, Chemist, Agricultural Experiment Station, Madison, Wis.

Hon. J. W. Bailey, State Dairy and Food Commissioner, Portland, Oreg.

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President Wm. H. Caldwell, Granite State Dairymen's Association, Peterboro, N. H.

Prof. C. H. Eckles, Department of Dairy Husbandry, University of Missouri, Columbia, Mo.

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Ex-President Fred M. Warner, Michigan Dairymen's Association, Farmington, Mich.

President W. L. Williamson, Georgia Dairymen's Association, Commerce, Ga.

Hon. H. R. Wright, State Dairy Commissioner, Des Moines, Iowa.